Federal EMS Case Study

Environmental Management at the Air National Guard

The U.S. Air National Guard (ANG), a domestic reserve unit of the U.S. Air Force under the Department of Defense, serves a dual function as both a component of the nation's military and a critical provider of disaster relief to states and local communities. In fulfilling its mission, ANG takes immense pride in serving as the "Hometown Air Force" for communities across the country. ANG installations take active roles in their communities and strive to be local leaders in environmental stewardship.

In 2000, the signing of Executive Order (E.O.) 13148 "Greening the Government Through Leadership in Environmental Management" provided the catalyst for ANG to formalize processes and procedures in environmental management systems (EMSs) and minimize environmental impacts at ANG installations. The Air Force provided strong leadership and support, distributing several guidance materials, including an EMS Implementation Plan and EMS implementation and training guidance for senior leaders, practitioners, and for general awareness. ANG used this guidance, along with additional ANG-specific plans and tools, to initiate EMS implementation at 79 appropriate ANG bases.

EMS at the 179th Airlift Wing

The 179th Airlift Wing (179AW) in Mansfield, Ohio, was the first ANG installation to implement an EMS, receiving several awards and providing a model for other installations to follow. With Air Force and ANG guidance, 179AW first formed a cross-functional team (CFT) representing all critical base operations. The team, chaired by the Mission Support Group Commander, includes personnel from the following areas:

- Aircraft and Ground Maintenance
- Base Facility
- Bioenvironmental Engineering
- Environmental Management
- Ground Safety
- Hazardous Materials Pharmacy

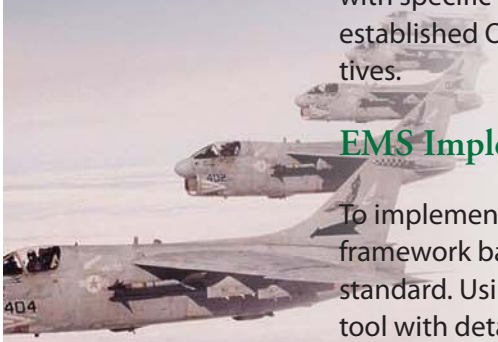
In May 2004, the CFT was formally tasked with implementing and managing a successful EMS at 179AW.

Defining the Scope of 179AW's EMS

The CFT's first goal was to assess standard base operations and identify significant environmental aspects to integrate into an EMS. To do so, the CFT consulted with 25 shop chiefs and maintenance personnel to discuss work processes that could impact the local environment. During this inventory exercise, the CFT input operating procedures and related environmental aspects into a database developed by the National Guard Bureau to serve as a clearinghouse and standard prioritization tool at all installations. The CFT identified the six main environmental aspects using this database tool and ranked them in order of greatest threat to the environment:

1. Potential Release and Soil Contamination: Reduce the potential of spills to soil from jet propellant, gasoline, and diesel fuel storage locations.
2. Potential Storm Water Contamination: Reduce the potential of spills and releases to storm water from jet propellant, gasoline, and diesel fuel storage locations.
3. Wastewater Treatment Plant Operations (Wastewater Discharge): Minimize the regulatory burden and impact from wastewater treatment plant operations.
4. Flightline Deicing Operations (Potential Contamination to Surface Water): Reduce dependency on deicing chemicals and still meet mission requirements.
5. Firing Rage Cleanup (Generation of Hazardous Waste): Investigate and cleanup firing range area in accordance with all environmental laws and regulations
6. Fossil Fuel Consumption (Potential Degradation of Air Quality): Reduce dependency on gasoline and diesel usage to coincide with Air Force and ANG reduction goals.

The next step in defining the scope of its EMS was determining a management approach for minimizing impacts. In January 2005, the CFT developed an EMS Management Plan, with specific objectives and target completion dates for each of the six areas. The plan also established Offices of Primary Responsibility, parties responsible for meeting these objectives.



EMS Implementation

To implement 179AW's environmental management plans, the CFT chose to follow a framework based on the International Organization for Standardization (ISO) 14001 standard. Using the ISO model, the CFT developed an EMS program binder, a reference tool with details on progress and obstacles in attaining EMS objectives for each major ISO 14001 areas. The binder was constantly updated throughout 2005 and has proven to be an important means of maintaining continuity during the implementation process and beyond. It remains an essential tool for both those responsible for implementation and others interested in the installation's EMS.

To spread awareness of EMS roles and responsibilities, the CFT implemented a comprehensive training program for all 1,100 employees at 179AW. The CFT created a general awareness training video for all personnel, which was then also integrated into the standard training program for all new members. To complement the video training module, the CFT also developed EMS information cards, pocket-sized references for all employees.

ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

VISION:

- To be recognized as one of the premier Environmental Management Offices in the Air National Guard

MISSION:

- Reduce hazardous and solid waste generation
- Increase recycling and affirmative procurement efforts
- Maintain compliance with all applicable EPA, Air Force, and Air National Guard regulations.

SIGNIFICANT ASPECTS & OBJECTIVES

1. POL—Potential Spill and Soil Contamination
   a. Reduce the potential of spills to soil from JP-8 and Fuel Storage Areas.
2. POL—Potential Storm Water Contamination
   b. Reduce the potential of spills to storm water from JP-8 and Fuel Storage Areas.
3. Wastewater Treatment Plant Operations—Wastewater Discharge
   c. Minimize the regulatory burden and impact from wastewater treatment plant operations.
4. Flightline Deicing Operations—Potential Contamination to Surface Water
   d. Reduce our dependency of deicing chemicals and still meet mission requirements.
5. Firing Range Cleanup—Generation of Hazardous Waste
   e. Investigate and cleanup firing range area in accordance with all environmental laws.
6. Fossil Fuel Consumption—Potential Degradation of Air Quality
   f. Reduce dependency on MoGas and Diesel usage to coincide with AF and ANG reduction goals.

Figure 1. Front and back of 179AW's EMS pocket reference cards

General feedback on the information cards was positive throughout 179AW. The cards were useful in helping members answer on-the-spot questions during EMS audits (many members knew the answers without pulling out their cards) and fostering EMS awareness and ownership throughout the wing.

Support From Senior Leadership

Throughout the implementation process, the CFT benefited immensely from the support of 179AW command. "An EMS provides an opportunity to assess how your unit manages environmental risk and to find better and more cost-effective solutions," explained Colonel Mark L. Stephens, Commander of 179AW. "Senior leadership at the 179th Airlift Wing is committed to implementing and operating an effective and successful EMS."

Throughout the implementation process, members of the CFT presented EMS progress to the Wing Commander at quarterly Environmental Protection Committee meetings. Based on this information, 179AW command structure then integrated environmental management into decision-making processes and communicated the importance of EMS across the base via email and Commander's Call briefings.

EMS Accomplishments at 179AW

EMS implementation resulted in a number of positive changes at 179AW. Soon after establishing the critical environmental aspects at 179AW, the CFT spurred the creation of several working groups to begin addressing management issues. A Deicing Working Group began efforts to minimize impacts from propylene glycol and a Fossil Fuel Working Group initiated use reduction plans that spanned several of the environmental aspects identified in EMS targets.

One significant outcome of the working groups and open lines of communication (enabled by the focus on EMS awareness) was the identification of potential impacts from deficient jet fuel storage units. EMS representatives consulted with engineers and maintenance staff for recommendations on improving secondary containment areas and minimizing the risk to the environment. A suggestion from an engineer inspired a failure abatement project that addressed the containment issue and minimized the risk of spills or leaks.

As the system developed, 179AW's EMS enhanced efforts to achieve other key mission objectives, such as building community relationships. Members of the CFT gave speeches at local schools, civic organizations, veterans' organizations, and auxiliaries, discussing environmental stewardship at ANG. As part of this outreach effort, 179AW produced and distributed brochures and fact sheets with information on recycling, environmentally friendly products, and hazardous waste collection procedures. This interaction allowed 179AW to explain how the community can reduce impacts on the environment and what ANG is doing to lead the way.

The Future of EMS at ANG

In June 2005, 179AW became the first ANG installation to complete EMS implementation and self-declare compliance with E.O. 13148, six months ahead of the December deadline. Success at 179AW won the facility several ANG environmental performance awards, including the 2005 ANG Environmental Quality Award for Individual/Team Excellence.

Recognized as leaders in environmental management, members of the 179AW CFT assisted other ANG installations with EMS implementation. By December 31, 2005, 78 of the 79 ANG facilities had successfully completed EMS implementation (the only exception being the Gulfport, Mississippi, installation, which postponed implementation while recovering from Hurricane Katrina). ANG views the achievement as a first step towards ensuring "long-term mission sustainability" and is actively pursing the next step, expansion of EMSs into Environmental, Safety, and Occupational Health Management Systems at each ANG base.